

[illegible]

Desnoyers, Luc
Ferrara, Napoleone
Fong, Sherman
Gao, Wei-Qiang
Goddard, Audrey
Gurney, Austin L.
Pan, James
Roy, Margaret Ann
Stewart, Timothy A.
Tumas, Daniel
Watanabe, Colin K.
Wood, William I.

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Leu	Trp	Leu	Ser	Pro	Leu	Thr	Glu	Gly	Ala	Pro	Arg	Thr	Arg	Glu
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Pro	Arg	Arg	Glu	Leu	Arg	Arg	Ala	Ser	Pro	Gly	Met	Ile	Asp	Val
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 Lys Ile Tyr Asn Pro Ser Glu Gln Cys Cys Tyr Asp Asp Ala Ile
 50 55 60
 Leu Ser Leu Lys Glu Thr Arg Arg Cys Gly Ser Thr Cys Thr Phe
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 Trp Pro Cys Phe Glu Leu Cys Cys Pro Glu Ser Phe Gly Pro Gln
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Glu Leu Gly Arg Pro Ala Arg Asp Glu Gly Gly Ser Gly Arg Asp
65 70 75

Trp Lys Ser Lys Ser Gly Arg Gly Leu Ala Gly Arg Glu Pro Trp
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Ser Lys Leu Lys Gln Ala Trp Val Ser Gln Gly Gly Gly Ala Lys
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Ala Gly Asp Leu Gln Val Arg Pro Arg Gly Asp Thr Pro Gln Ala
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Ile Pro Ala Gly Arg Glu Val Lys Thr	Asp Glu Cys Thr Ile Cys	
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<210> 16
<211> 437
<212> PRT
<213> Homo sapiens

<400> 16

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His	Val	Trp	Lys	Val	Ser	Asp	Leu	Pro	Arg	Gln	Trp	Thr	Pro	Lys	35	40	45	
Asn	Thr	Ser	Cys	Asp	Ser	Gly	Leu	Gly	Cys	Gln	Asp	Thr	Leu	Met	50	55	60	
Leu	Ile	Glu	Ser	Gly	Pro	Gln	Val	Ser	Leu	Val	Leu	Ser	Lys	Gly	65	70	75	
Cys	Thr	Glu	Ala	Lys	Asp	Gln	Glu	Pro	Arg	Val	Thr	Glu	His	Arg	80	85	90	
Met	Gly	Pro	Gly	Leu	Ser	Leu	Ile	Ser	Tyr	Thr	Phe	Val	Cys	Arg	95	100	105	
Gln	Glu	Asp	Phe	Cys	Asn	Asn	Leu	Val	Asn	Ser	Leu	Pro	Leu	Trp	110	115	120	
Ala	Pro	Gln	Pro	Pro	Ala	Asp	Pro	Gly	Ser	Leu	Arg	Cys	Pro	Val	125	130	135	
Cys	Leu	Ser	Met	Glu	Gly	Cys	Leu	Glu	Gly	Thr	Thr	Glu	Glu	Ile	140	145	150	
Cys	Pro	Lys	Gly	Thr	Thr	His	Cys	Tyr	Asp	Gly	Leu	Leu	Arg	Leu	155	160	165	
Arg	Gly	Gly	Gly	Ile	Phe	Ser	Asn	Leu	Arg	Val	Gln	Gly	Cys	Met	170	175	180	
Pro	Gln	Pro	Gly	Cys	Asn	Leu	Leu	Asn	Gly	Thr	Gln	Glu	Ile	Gly	185	190	195	
Pro	Val	Gly	Met	Thr	Glu	Asn	Cys	Asn	Arg	Lys	Asp	Phe	Leu	Thr	200	205	210	
Cys	His	Arg	Gly	Thr	Thr	Ile	Met	Thr	His	Gly	Asn	Leu	Ala	Gln	215	220	225	
Glu	Pro	Thr	Asp	Trp	Thr	Thr	Ser	Asn	Thr	Glu	Met	Cys	Glu	Val				

230	235	240
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245	250	255
Thr Ser Thr Leu Val Gly Thr Lys Gly Cys Ser Thr Val Gly Ala		
260	265	270
Gln Asn Ser Gln Lys Thr Thr Ile His Ser Ala Pro Pro Gly Val		
275	280	285
Leu Val Ala Ser Tyr Thr His Phe Cys Ser Ser Asp Leu Cys Asn		
290	295	300
Ser Ala Ser Ser Ser Ser Val Leu Leu Asn Ser Leu Pro Pro Gln		
305	310	315
Ala Ala Pro Val Pro Gly Asp Arg Gln Cys Pro Thr Cys Val Gln		
320	325	330
Pro Leu Gly Thr Cys Ser Ser Gly Ser Pro Arg Met Thr Cys Pro		
335	340	345
Arg Gly Ala Thr His Cys Tyr Asp Gly Tyr Ile His Leu Ser Gly		
350	355	360
Gly Gly Leu Ser Thr Lys Met Ser Ile Gln Gly Cys Val Ala Gln		
365	370	375
Pro Ser Ser Phe Leu Leu Asn His Thr Arg Gln Ile Gly Ile Phe		
380	385	390
Ser Ala Arg Glu Lys Arg Asp Val Gln Pro Pro Ala Ser Gln His		
395	400	405
Glu Gly Gly Gly Ala Glu Gly Leu Glu Ser Leu Thr Trp Gly Val		
410	415	420
Gly Leu Ala Leu Ala Pro Ala Leu Trp Trp Gly Val Val Cys Pro		
425	430	435

Ser Cys

<210> 17

<211> 2387

<212> DNA

<213> Homo sapiens

<400> 17

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 ctataataaa gaaaattctt gtgactttaa aaaaaaa 2387

<210> 18
 <211> 487
 <212> PRT
 <213> Homo sapiens

<400> 18
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 35 40 45
 Tyr Phe Gly Thr Lys Thr Arg Tyr Glu Asp Val Asn Pro Val Leu
 50 55 60
 Leu Ser Gly Pro Glu Ala Pro Trp Arg Asp Pro Glu Leu Leu Glu
 65 70 75
 Gly Thr Cys Thr Pro Val Gln Leu Val Ala Leu Ile Arg His Gly
 80 85 90
 Thr Arg Tyr Pro Thr Val Lys Gln Ile Arg Lys Leu Arg Gln Leu
 95 100 105
 His Gly Leu Leu Gln Ala Arg Gly Ser Arg Asp Gly Gly Ala Ser

110	115	120
Ser Thr Gly Ser Arg Asp Leu Gly Ala	Ala Leu Ala Asp Trp Pro	
125	130	135
Leu Trp Tyr Ala Asp Trp Met Asp Gly	Gln Leu Val Glu Lys Gly	
140	145	150
Arg Gln Asp Met Arg Gln Leu Ala Leu	Arg Leu Ala Ser Leu Phe	
155	160	165
Pro Ala Leu Phe Ser Arg Glu Asn Tyr	Gly Arg Leu Arg Leu Ile	
170	175	180
Thr Ser Ser Lys His Arg Cys Met Asp	Ser Ser Ala Ala Phe Leu	
185	190	195
Gln Gly Leu Trp Gln His Tyr His Pro	Gly Leu Pro Pro Pro Asp	
200	205	210
Val Ala Asp Met Glu Phe Gly Pro Pro	Thr Val Asn Asp Lys Leu	
215	220	225
Met Arg Phe Phe Asp His Cys Glu Lys	Phe Leu Thr Glu Val Glu	
230	235	240
Lys Asn Ala Thr Ala Leu Tyr His Val	Glu Ala Phe Lys Thr Gly	
245	250	255
Pro Glu Met Gln Asn Ile Leu Lys Lys	Val Ala Ala Thr Leu Gln	
260	265	270
Val Pro Val Asn Asp Leu Asn Ala Asp	Leu Ile Gln Val Ala Phe	
275	280	285
Phe Thr Cys Ser Phe Asp Leu Ala Ile	Lys Gly Val Lys Ser Pro	
290	295	300
Trp Cys Asp Val Phe Asp Ile Asp Asp	Ala Lys Val Leu Glu Tyr	
305	310	315
Leu Asn Asp Leu Lys Gln Tyr Trp Lys	Arg Gly Tyr Gly Tyr Thr	
320	325	330
Ile Asn Ser Arg Ser Ser Cys Thr Leu	Phe Gln Asp Ile Phe Gln	
335	340	345
His Leu Asp Lys Ala Val Glu Gln Lys	Gln Arg Ser Gln Pro Ile	
350	355	360
Ser Ser Pro Val Ile Leu Gln Phe Gly	His Ala Glu Thr Leu Leu	
365	370	375
Pro Leu Leu Ser Leu Met Gly Tyr Phe	Lys Asp Lys Glu Pro Leu	
380	385	390
Thr Ala Tyr Asn Tyr Lys Lys Gln Met	His Arg Lys Phe Arg Ser	
395	400	405

Gly	Leu	Ile	Val	Pro	Tyr	Ala	Ser	Asn	Leu	Ile	Phe	Val	Leu	Tyr	
				410					415					420	
His	Cys	Glu	Asn	Ala	Lys	Thr	Pro	Lys	Glu	Gln	Phe	Arg	Val	Gln	
				425					430					435	
Met	Leu	Leu	Asn	Glu	Lys	Val	Leu	Pro	Leu	Ala	Tyr	Ser	Gln	Glu	
				440					445					450	
Thr	Val	Ser	Phe	Tyr	Glu	Asp	Leu	Lys	Asn	His	Tyr	Lys	Asp	Ile	
				455					460					465	
Leu	Gln	Ser	Cys	Gln	Thr	Ser	Glu	Glu	Cys	Glu	Leu	Ala	Arg	Ala	
				470					475					480	
Asn	Ser	Thr	Ser	Asp	Glu	Leu									
				485											

<210> 19
 <211> 3554
 <212> DNA
 <213> Homo sapiens

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 gttgtccttg ctgtactggc cctgatcacg ttgggcatct gctgtgcata 850

Met	Ala	Leu	Arg	Arg	Pro	Pro	Arg	Leu	Arg	Leu	Cys	Ala	Arg	Leu	1	5	10	15
Pro	Asp	Phe	Phe	Leu	Leu	Leu	Phe	Arg	Gly	Cys	Leu	Ile	Gly	20	25	30		
Ala	Val	Asn	Leu	Lys	Ser	Ser	Asn	Arg	Thr	Pro	Val	Val	Gln	Glu	35	40	45	
Phe	Glu	Ser	Val	Glu	Leu	Ser	Cys	Ile	Ile	Thr	Asp	Ser	Gln	Thr	50	55	60	
Ser	Asp	Pro	Arg	Ile	Glu	Trp	Lys	Lys	Ile	Gln	Asp	Glu	Gln	Thr	65	70	75	
Thr	Tyr	Val	Phe	Phe	Asp	Asn	Lys	Ile	Gln	Gly	Asp	Leu	Ala	Gly	80	85	90	
Arg	Ala	Glu	Ile	Leu	Gly	Lys	Thr	Ser	Leu	Lys	Ile	Trp	Asn	Val	95	100	105	
Thr	Arg	Arg	Asp	Ser	Ala	Leu	Tyr	Arg	Cys	Glu	Val	Val	Ala	Arg	110	115	120	
Asn	Asp	Arg	Lys	Glu	Ile	Asp	Glu	Ile	Val	Ile	Glu	Leu	Thr	Val	125	130	135	
Gln	Val	Lys	Pro	Val	Thr	Pro	Val	Cys	Arg	Val	Pro	Lys	Ala	Val	140	145	150	
Pro	Val	Gly	Lys	Met	Ala	Thr	Leu	His	Cys	Gln	Glu	Ser	Glu	Gly	155	160	165	
His	Pro	Arg	Pro	His	Tyr	Ser	Trp	Tyr	Arg	Asn	Asp	Val	Pro	Leu	170	175	180	
Pro	Thr	Asp	Ser	Arg	Ala	Asn	Pro	Arg	Phe	Arg	Asn	Ser	Ser	Phe	185	190	195	
His	Leu	Asn	Ser	Glu	Thr	Gly	Thr	Leu	Val	Phe	Thr	Ala	Val	His	200	205	210	
Lys	Asp	Asp	Ser	Gly	Gln	Tyr	Tyr	Cys	Ile	Ala	Ser	Asn	Asp	Ala	215	220	225	
Gly	Ser	Ala	Arg	Cys	Glu	Glu	Gln	Glu	Met	Glu	Val	Tyr	Asp	Leu	230	235	240	
Asn	Ile	Gly	Gly	Ile	Ile	Gly	Gly	Val	Leu	Val	Val	Leu	Ala	Val	245	250	255	
Leu	Ala	Leu	Ile	Thr	Leu	Gly	Ile	Cys	Cys	Ala	Tyr	Arg	Arg	Gly	260	265	270	
Tyr	Phe	Ile	Asn	Asn	Lys	Gln	Asp	Gly	Glu	Ser	Tyr	Lys	Asn	Pro	275	280	285	
Gly	Lys	Pro	Asp	Gly	Val	Asn	Tyr	Ile	Arg	Thr	Asp	Glu	Glu	Gly				

290

295

300

Asp Phe Arg His Lys Ser Ser Phe Val Ile
305 310

<210> 21

<211> 3437

<212> DNA

<213> Homo sapiens

<400> 21

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<210> 22

<211> 1029

<212> PRT

<213> Homo sapiens

<400> 22

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Gly	Pro	Pro	Arg	Ala	Asp	Asp	Ser	Glu	Phe	Gln	Ala	Leu	Leu	Asp
			20						25					30
Ile	Trp	Phe	Pro	Glu	Glu	Lys	Pro	Leu	Pro	Thr	Ala	Phe	Leu	Val
			35						40					45
Asp	Thr	Ser	Glu	Glu	Ala	Leu	Leu	Leu	Pro	Asp	Trp	Leu	Lys	Leu
			50						55					60
Arg	Met	Ile	Arg	Ser	Glu	Val	Leu	Arg	Leu	Val	Asp	Ala	Ala	Leu
			65						70					75
Gln	Asp	Leu	Glu	Pro	Gln	Gln	Leu	Leu	Leu	Phe	Val	Gln	Ser	Phe
			80						85					90
Gly	Ile	Pro	Val	Ser	Ser	Met	Ser	Lys	Leu	Leu	Gln	Phe	Leu	Asp
			95						100					105

Gln Ala Val Ala His Asp Pro Gln Thr	Leu Glu Gln Asn Ile Met
110	115 120
Asp Lys Asn Tyr Met Ala His Leu Val	Glu Val Gln His Glu Arg
125	130 135
Gly Ala Ser Gly Gly Gln Thr Phe His	Ser Leu Leu Thr Ala Ser
140	145 150
Leu Pro Pro Arg Arg Asp Ser Thr Glu	Ala Pro Lys Pro Lys Ser
155	160 165
Ser Pro Glu Gln Pro Ile Gly Gln Gly	Arg Ile Arg Val Gly Thr
170	175 180
Gln Leu Arg Val Leu Gly Pro Glu Asp	Asp Leu Ala Gly Met Phe
185	190 195
Leu Gln Ile Phe Pro Leu Ser Pro Asp	Pro Arg Trp Gln Ser Ser
200	205 210
Ser Pro Arg Pro Val Ala Leu Ala Leu	Gln Gln Ala Leu Gly Gln
215	220 225
Glu Leu Ala Arg Val Val Gln Gly Ser	Pro Glu Val Pro Gly Ile
230	235 240
Thr Val Arg Val Leu Gln Ala Leu Ala	Thr Leu Leu Ser Ser Pro
245	250 255
His Gly Gly Ala Leu Val Met Ser Met	His Arg Ser His Phe Leu
260	265 270
Ala Cys Pro Leu Leu Arg Gln Leu Cys	Gln Tyr Gln Arg Cys Val
275	280 285
Pro Gln Asp Thr Gly Phe Ser Ser Leu	Phe Leu Lys Val Leu Leu
290	295 300
Gln Met Leu Gln Trp Leu Asp Ser Pro	Gly Val Glu Gly Gly Pro
305	310 315
Leu Arg Ala Gln Leu Arg Met Leu Ala	Ser Gln Ala Ser Ala Gly
320	325 330
Arg Arg Leu Ser Asp Val Arg Gly Gly	Leu Leu Arg Leu Ala Glu
335	340 345
Ala Leu Ala Phe Arg Gln Asp Leu Glu	Val Val Ser Ser Thr Val
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Arg Ala Val Ile Ala Thr Leu Arg Ser	Gly Glu Gln Cys Ser Val
365	370 375
Glu Pro Asp Leu Ile Ser Lys Val Leu	Gln Gly Leu Ile Glu Val
380	385 390
Arg Ser Pro His Leu Glu Glu Leu Leu	Thr Ala Phe Phe Ser Ala

	395		400		405
Thr Ala Asp Ala	Ala Ser Pro Phe Pro	Ala Cys Lys Pro Val	Val		
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Val Val Ser Ser	Leu Leu Leu Gln Glu	Glu Glu Pro Leu Ala	Gly		
	425		430		435
Gly Lys Pro Gly	Ala Asp Gly Gly Ser	Leu Glu Ala Val Arg	Leu		
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Gly Pro Ser Ser	Gly Leu Leu Val Asp	Trp Leu Glu Met Leu	Asp		
	455		460		465
Pro Glu Val Val	Ser Ser Cys Pro Asp	Leu Gln Leu Arg Leu	Leu		
	470		475		480
Phe Ser Arg Arg	Lys Gly Lys Gly Gln	Ala Gln Val Pro Ser	Phe		
	485		490		495
Arg Pro Tyr Leu	Leu Thr Leu Phe Thr	His Gln Ser Ser Trp	Pro		
	500		505		510
Thr Leu His Gln	Cys Ile Arg Val Leu	Leu Gly Lys Ser Arg	Glu		
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Gln Arg Phe Asp	Pro Ser Ala Ser Leu	Asp Phe Leu Trp Ala	Cys		
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Ile His Val Pro	Arg Ile Trp Gln Gly	Arg Asp Gln Arg Thr	Pro		
	545		550		555
Gln Lys Arg Arg	Glu Glu Leu Val Leu	Arg Val Gln Gly Pro	Glu		
	560		565		570
Leu Ile Ser Leu	Val Glu Leu Ile Leu	Ala Glu Ala Glu Thr	Arg		
	575		580		585
Ser Gln Asp Gly	Asp Thr Ala Ala Cys	Ser Leu Ile Gln Ala	Arg		
	590		595		600
Leu Pro Leu Leu	Leu Ser Cys Cys Cys	Gly Asp Asp Glu Ser	Val		
	605		610		615
Arg Lys Val Thr	Glu His Leu Ser Gly	Cys Ile Gln Gln Trp	Gly		
	620		625		630
Asp Ser Val Leu	Gly Arg Arg Cys Arg	Asp Leu Leu Leu Gln	Leu		
	635		640		645
Tyr Leu Gln Arg	Pro Glu Leu Arg Val	Pro Val Pro Glu Val	Leu		
	650		655		660
Leu His Ser Glu	Gly Ala Ala Ser Ser	Ser Val Cys Lys Leu	Asp		
	665		670		675
Gly Leu Ile His	Arg Phe Ile Thr Leu	Leu Ala Asp Thr Ser	Asp		
	680		685		690

Ser Arg Ala Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys
 695 700 705
 Arg Lys Leu Ala Val Ala His Pro Leu Leu Leu Arg His Leu
 710 715 720
 Pro Met Ile Ala Ala Leu Leu His Gly Arg Thr His Leu Asn Phe
 725 730 735
 Gln Glu Phe Arg Gln Gln Asn His Leu Ser Cys Phe Leu His Val
 740 745 750
 Leu Gly Leu Leu Glu Leu Leu Gln Pro His Val Phe Arg Ser Glu
 755 760 765
 His Gln Gly Ala Leu Trp Asp Cys Leu Leu Ser Phe Ile Arg Leu
 770 775 780
 Leu Leu Asn Tyr Arg Lys Ser Ser Arg His Leu Ala Ala Phe Ile
 785 790 795
 Asn Lys Phe Val Gln Phe Ile His Lys Tyr Ile Thr Tyr Asn Ala
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 Pro Ala Ala Ile Ser Phe Leu Gln Lys His Ala Asp Pro Leu His
 815 820 825
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 830 835 840
 Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr Asp Arg
 845 850 855
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 860 865 870
 Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
 875 880 885
 Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu
 890 895 900
 Asp Leu Leu Glu Val Leu Ser Asp Ile Asp Glu Met Ser Arg Arg
 905 910 915
 Arg Pro Glu Ile Leu Ser Phe Phe Ser Thr Asn Leu Gln Arg Leu
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 Met Ser Ser Ala Glu Glu Cys Cys Arg Asn Leu Ala Phe Ser Leu
 935 940 945
 Ala Leu Arg Ser Met Gln Asn Ser Pro Ser Ile Ala Ala Ala Phe
 950 955 960
 Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln Asp Phe Glu Val
 965 970 975
 Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala Leu Leu Cys

980

985

990

Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu Val Gly
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Arg Ile Leu His Met Glu Ala Val Met
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<213> Homo sapiens

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Leu	Cys	Ala	Phe	Leu	Ser	Leu	Ser	Trp	Tyr	Ala	Ala	Leu	Ser	Gly
				20					25					30

Gln Lys Gly Asp Val Val Asp Val Tyr Gln Arg Glu Phe Leu Ala	35	40	45
Leu Arg Asp Arg Leu His Ala Ala Glu Gln Glu Ser Leu Lys Arg	50	55	60
Ser Lys Glu Leu Asn Leu Val Leu Asp Glu Ile Lys Arg Ala Val	65	70	75
Ser Glu Arg Gln Ala Leu Arg Asp Gly Asp Gly Asn Arg Thr Trp	80	85	90
Gly Arg Leu Thr Glu Asp Pro Arg Leu Lys Pro Trp Asn Gly Ser	95	100	105
His Arg His Val Leu His Leu Pro Thr Val Phe His His Leu Pro	110	115	120
His Leu Leu Ala Lys Glu Ser Ser Leu Gln Pro Ala Val Arg Val	125	130	135
Gly Gln Gly Arg Thr Gly Val Ser Val Val Met Gly Ile Pro Ser	140	145	150
Val Arg Arg Glu Val His Ser Tyr Leu Thr Asp Thr Leu His Ser	155	160	165
Leu Ile Ser Glu Leu Ser Pro Gln Glu Lys Glu Asp Ser Val Ile	170	175	180
Val Val Leu Ile Ala Glu Thr Asp Ser Gln Tyr Thr Ser Ala Val	185	190	195
Thr Glu Asn Ile Lys Ala Leu Phe Pro Thr Glu Ile His Ser Gly	200	205	210
Leu Leu Glu Val Ile Ser Pro Ser Pro His Phe Tyr Pro Asp Phe	215	220	225
Ser Arg Leu Arg Glu Ser Phe Gly Asp Pro Lys Glu Arg Val Arg	230	235	240
Trp Arg Thr Lys Gln Asn Leu Asp Tyr Cys Phe Leu Met Met Tyr	245	250	255
Ala Gln Ser Lys Gly Ile Tyr Tyr Val Gln Leu Glu Asp Asp Ile	260	265	270
Val Ala Lys Pro Asn Tyr Leu Ser Thr Met Lys Asn Phe Ala Leu	275	280	285
Gln Gln Pro Ser Glu Asp Trp Met Ile Leu Glu Phe Ser Gln Leu	290	295	300
Gly Phe Ile Gly Lys Met Phe Lys Ser Leu Asp Leu Ser Leu Ile	305	310	315
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